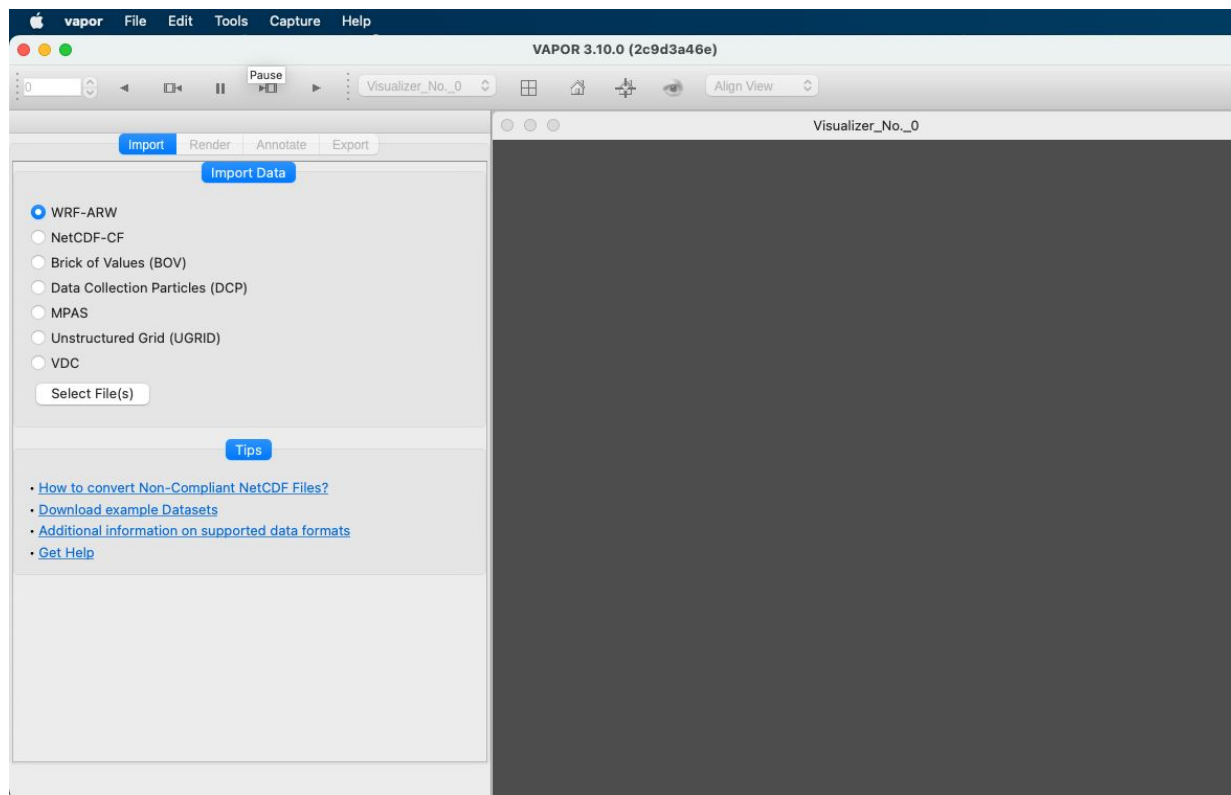
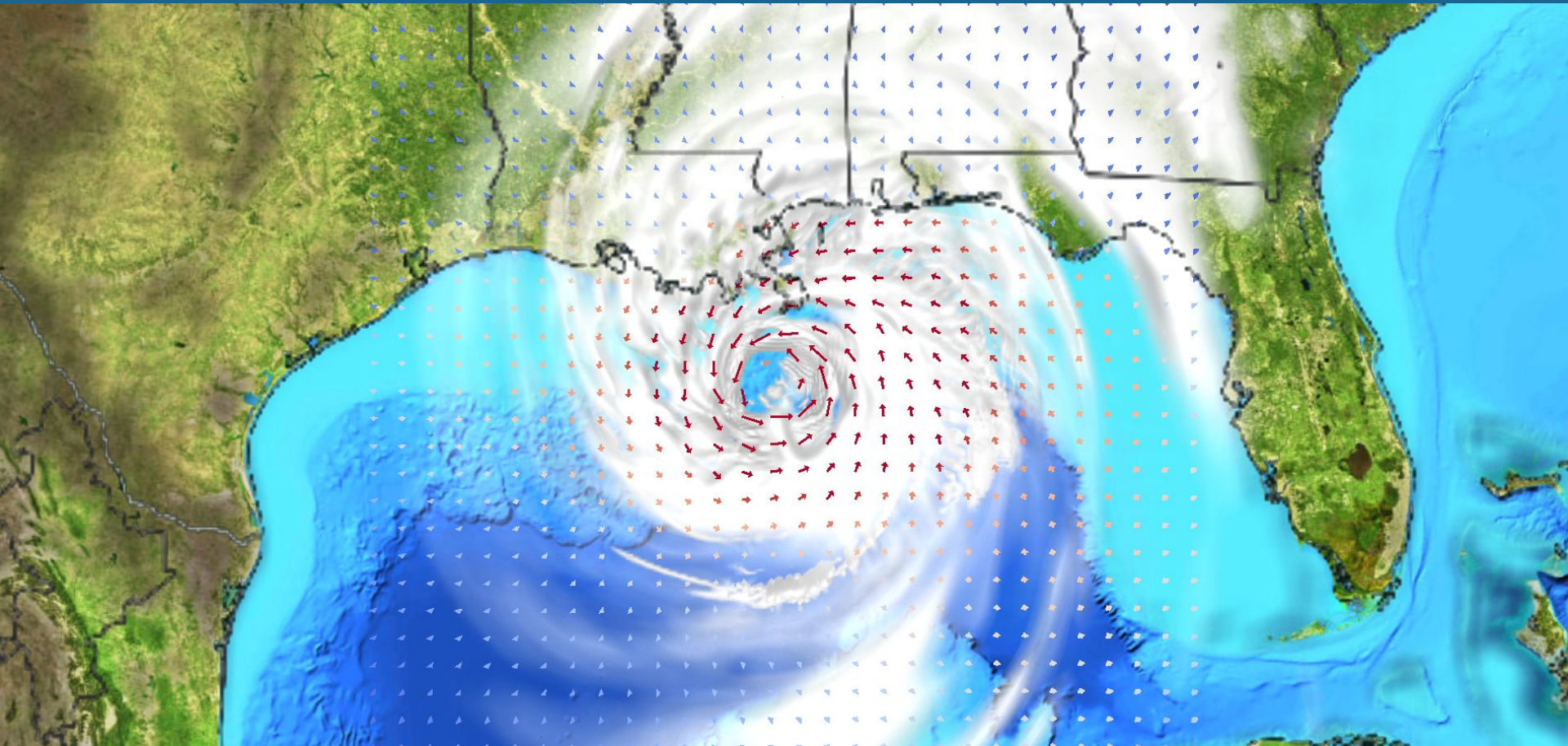
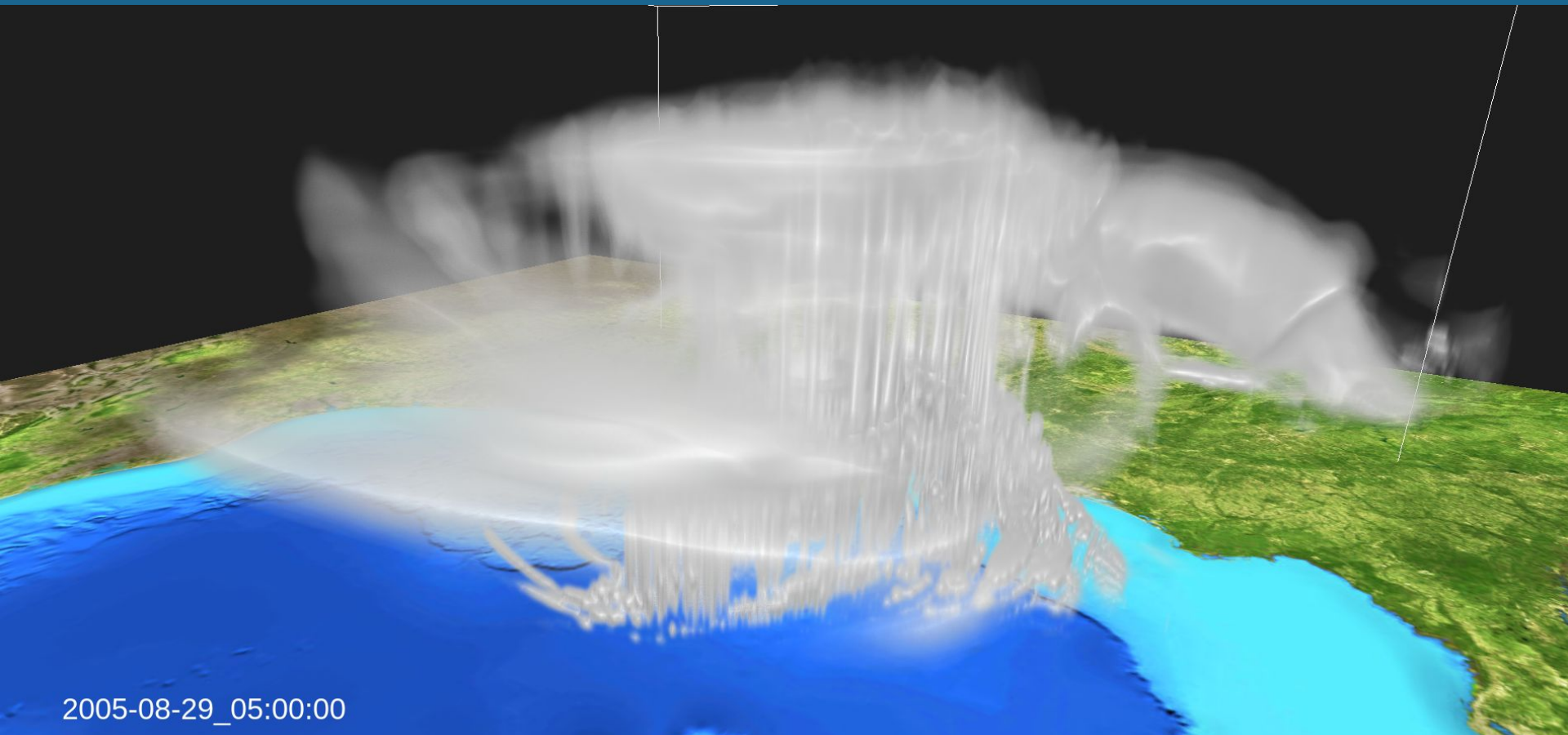




Katrina

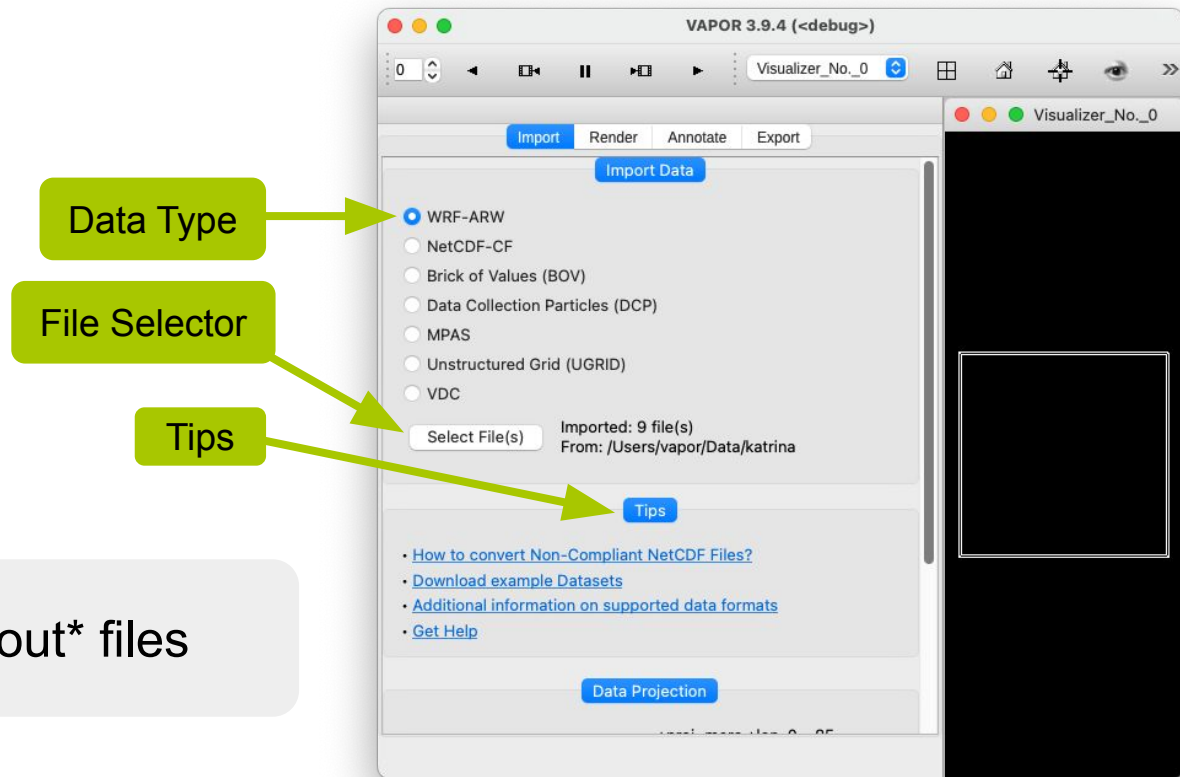


Katrina



2005-08-29_05:00:00

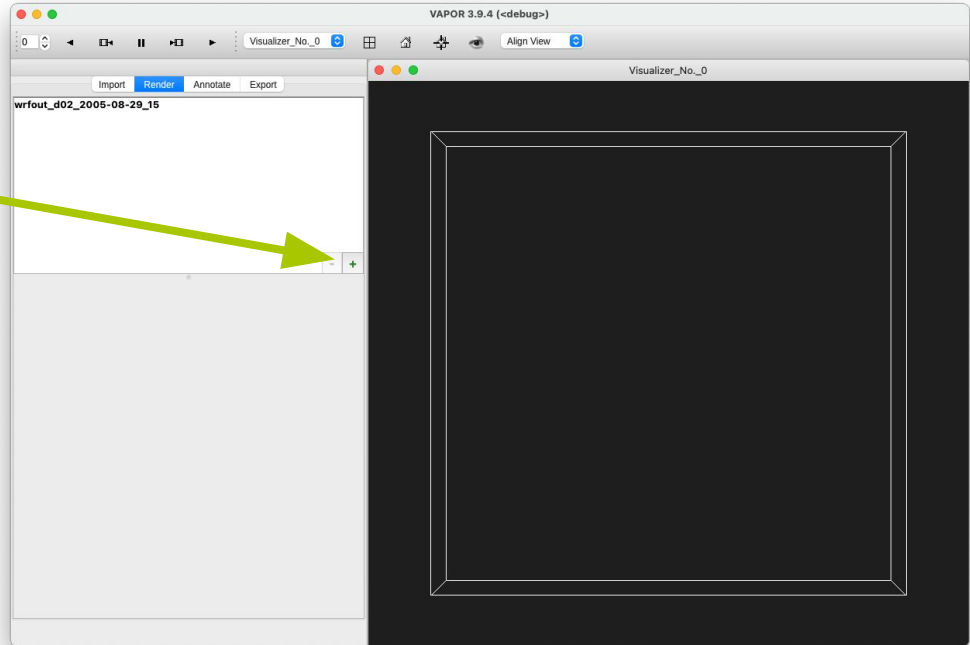
Katrina



Select all wrfout* files

Katrina – Bookmark: *Katrina Imported*

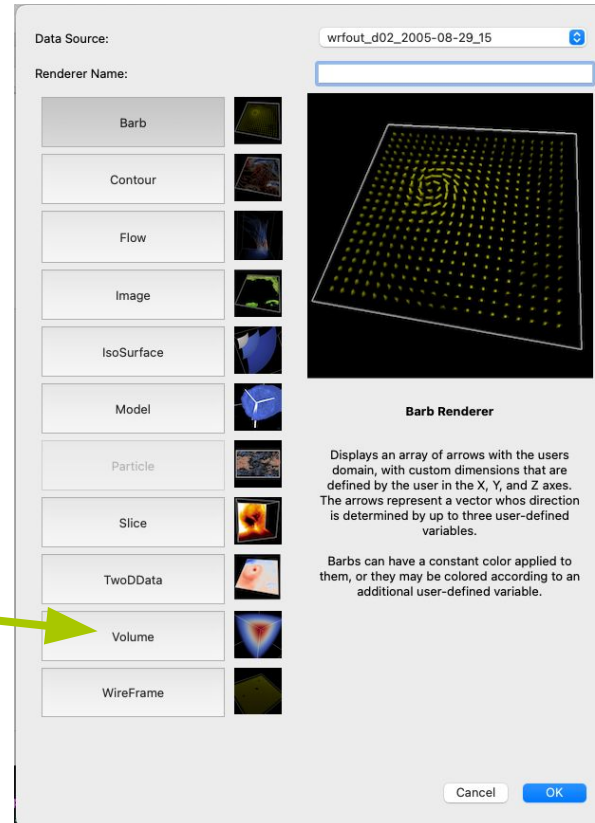
Create a New Renderer



Katrina – Bookmark: *Katrina Imported*

Create a New Renderer

Select “Volume”



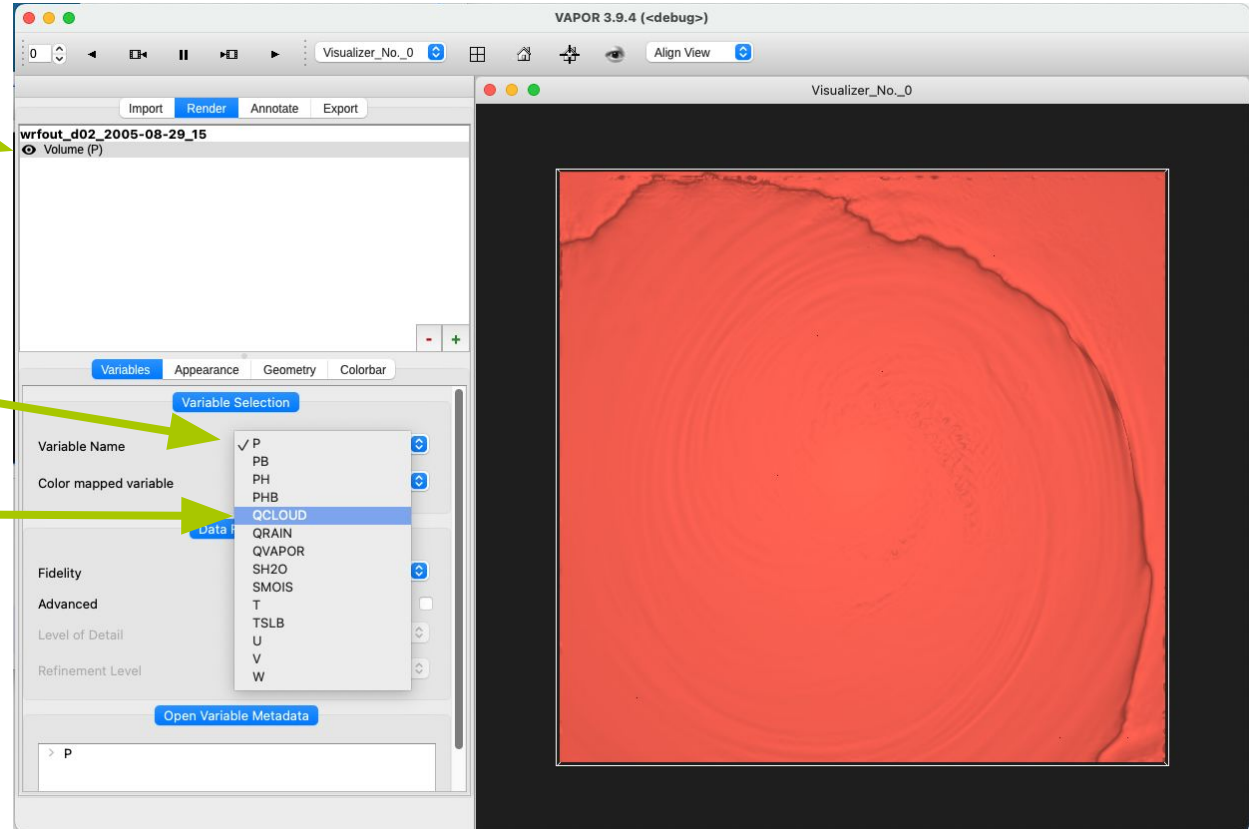
Katrina – Bookmark: QCLOUD

Enable Volume

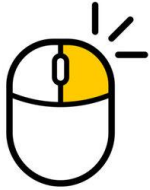


Variable Name

Select "QCLOUD"



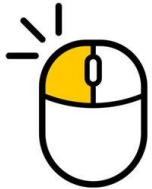
Katrina – Bookmark: *Katrina Imported*



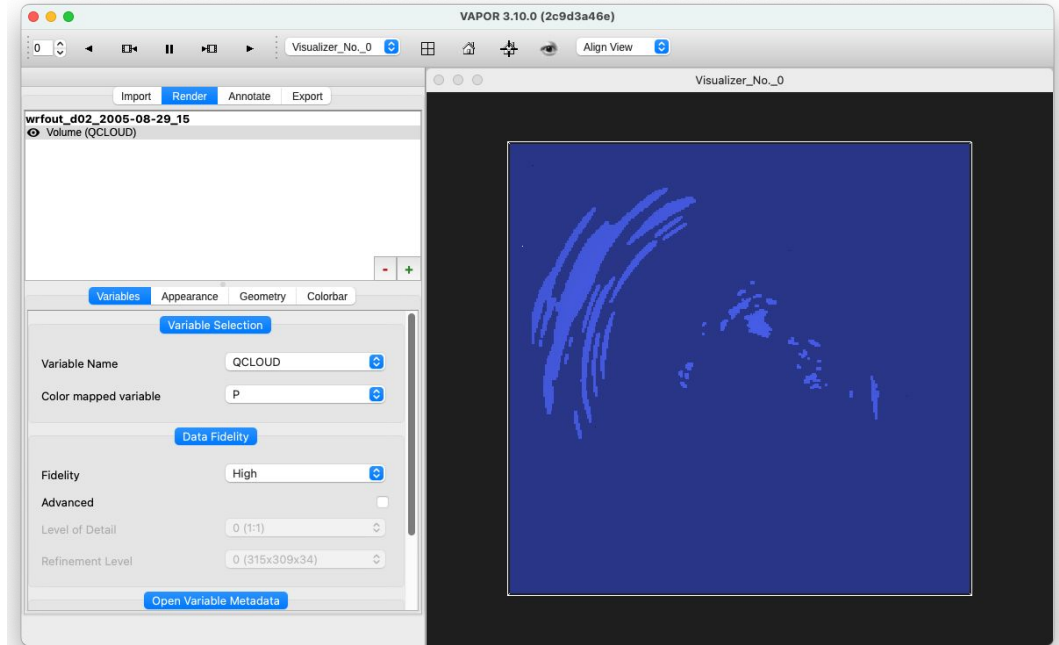
Zoom



Traverse

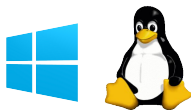


Rotate



Katrina – Bookmark: *Katrina Imported*

Trackpad Controls



Zoom

Right Button
+ Drag

Click + Drag

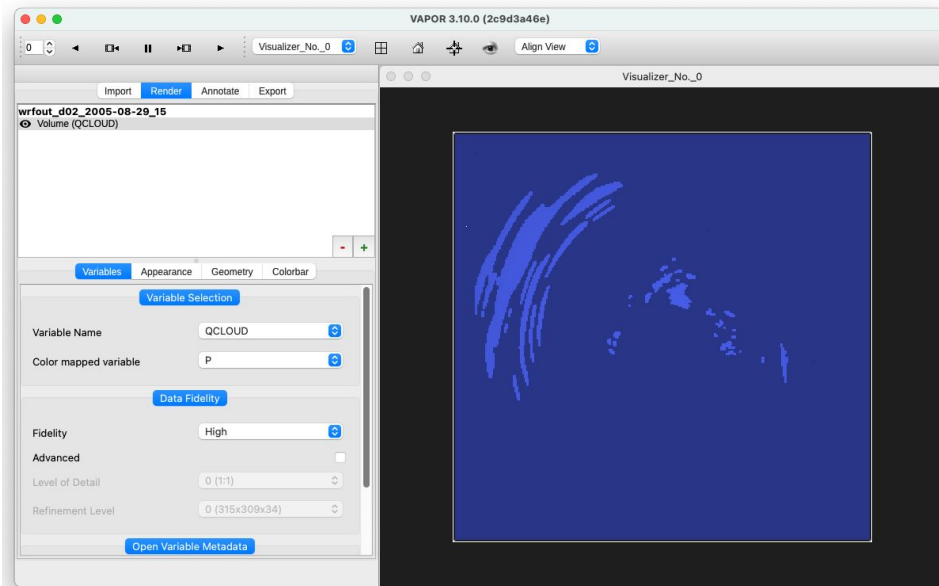
Traverse

Use a mouse :(

Rotate

Left Button
+ Drag

Control
+ Drag

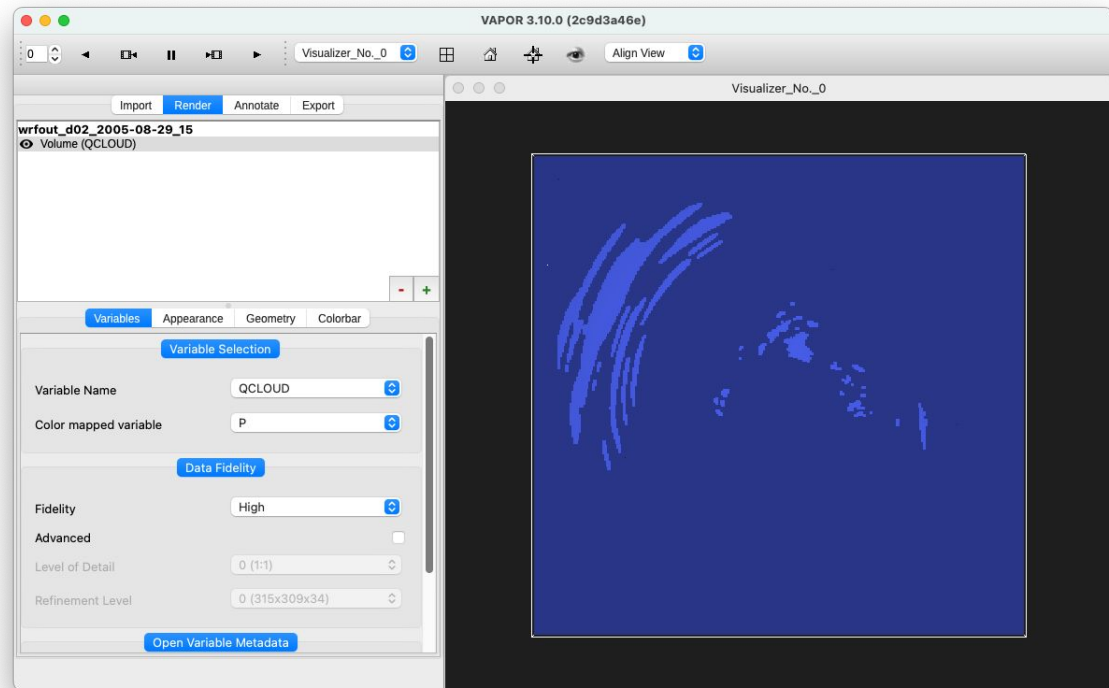


Katrina – Bookmark: *Katrina Imported*

Variables (What?)

Appearance (How?)

Geometry (Where?)

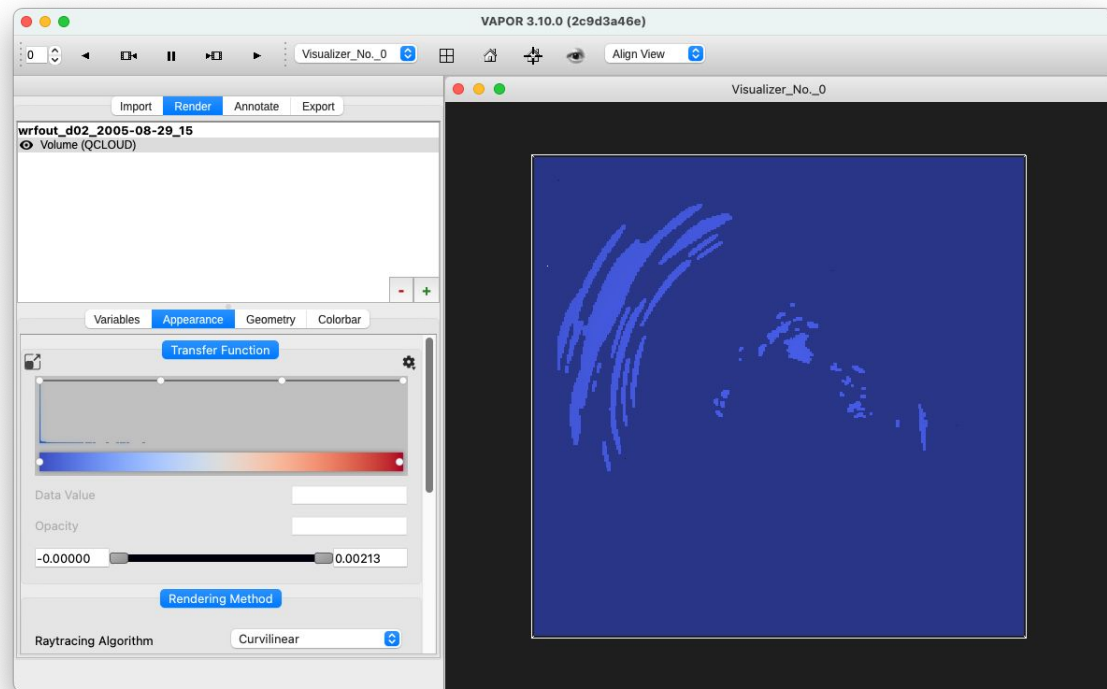


Katrina – Bookmark: *Katrina Imported*

Variables (What?)

Appearance (How?)

Geometry (Where?)

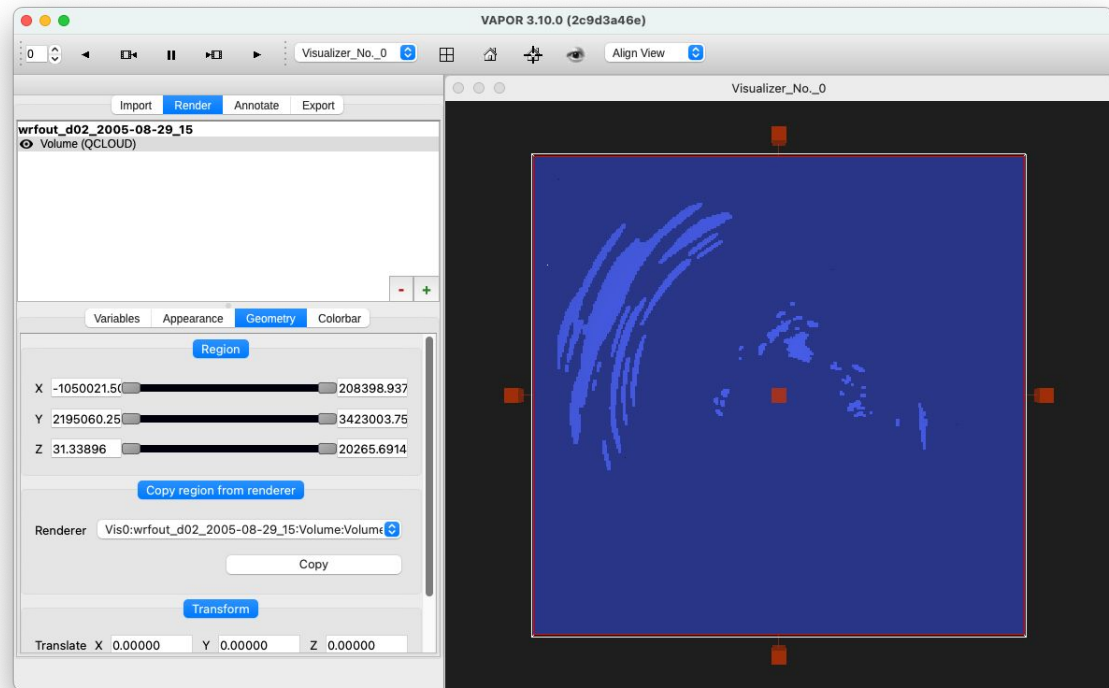


Katrina – Bookmark: *Katrina Imported*

Variables (What?)

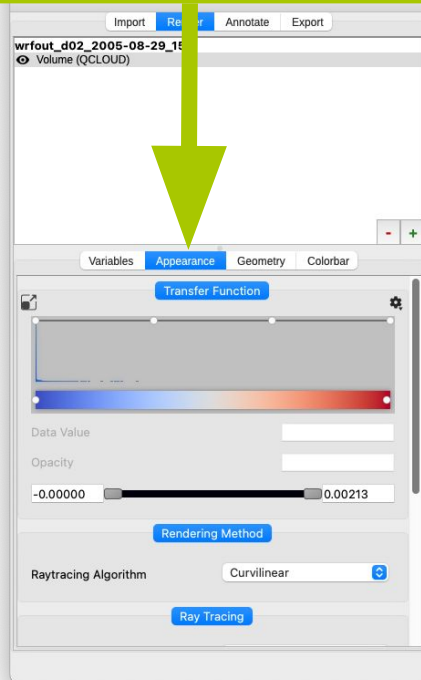
Appearance (How?)

Geometry (Where?)



Katrina - Bookmark: QCLOUD

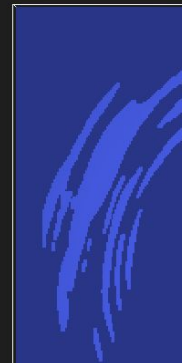
Go to the Appearance Tab



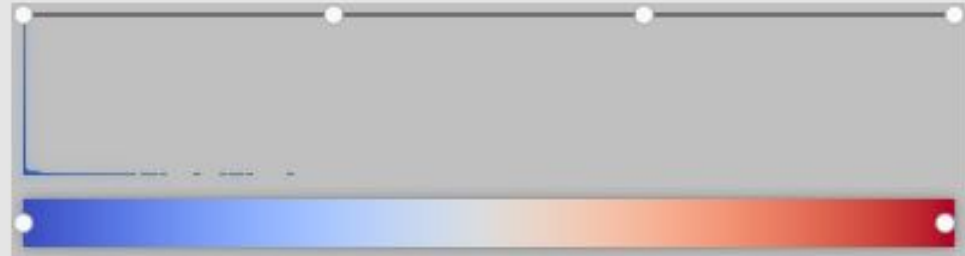
VAPOR 3.9.4 (<debug>)



Align View



Transfer Function



Data Value

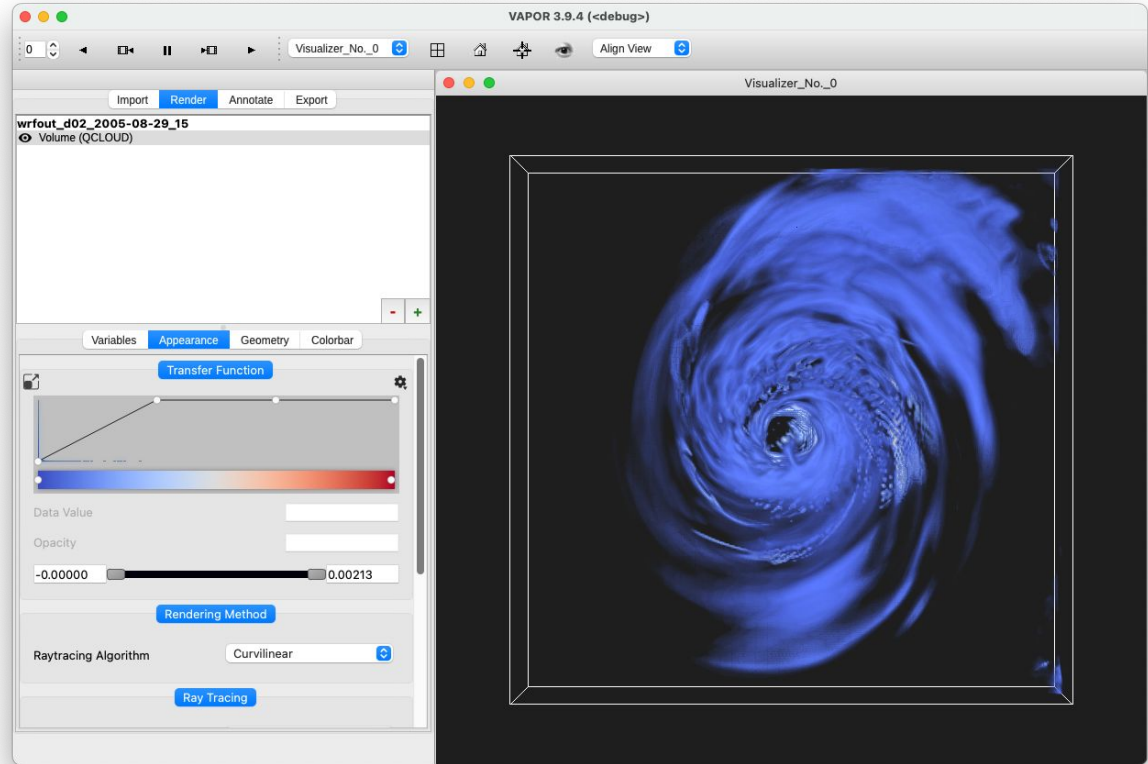
Opacity

-0.00000



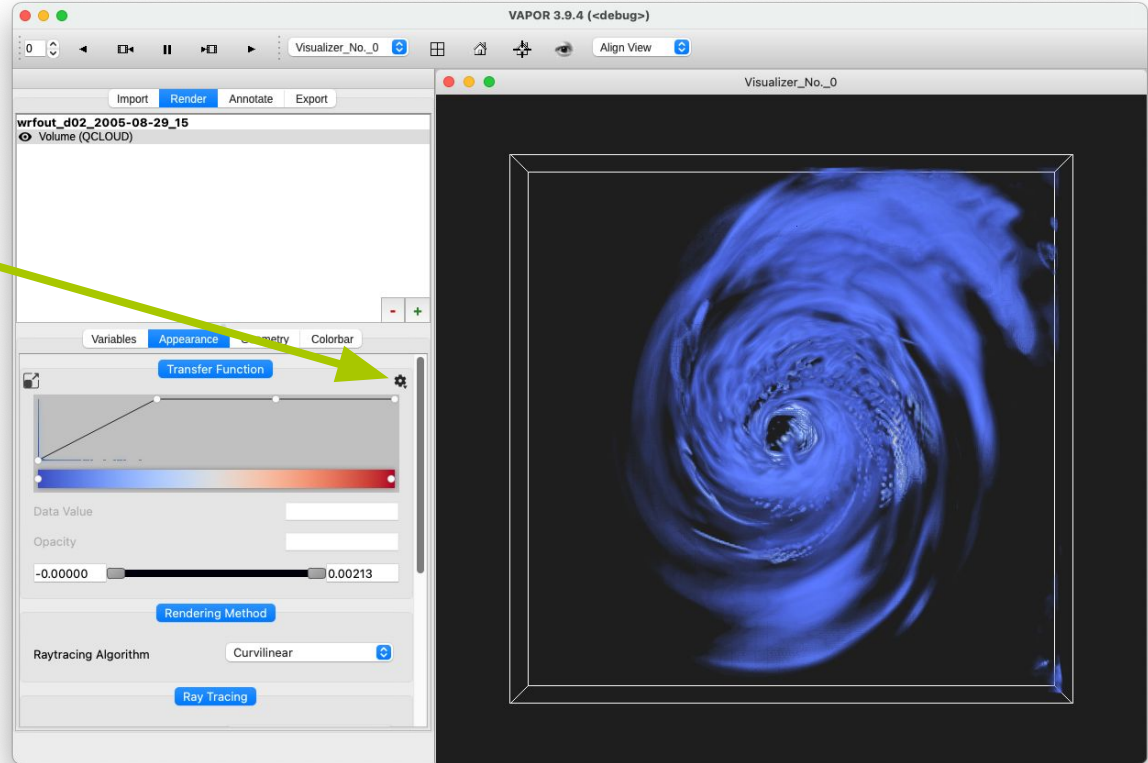
0.00213

Katrina – Bookmark: *Q*CLOUD

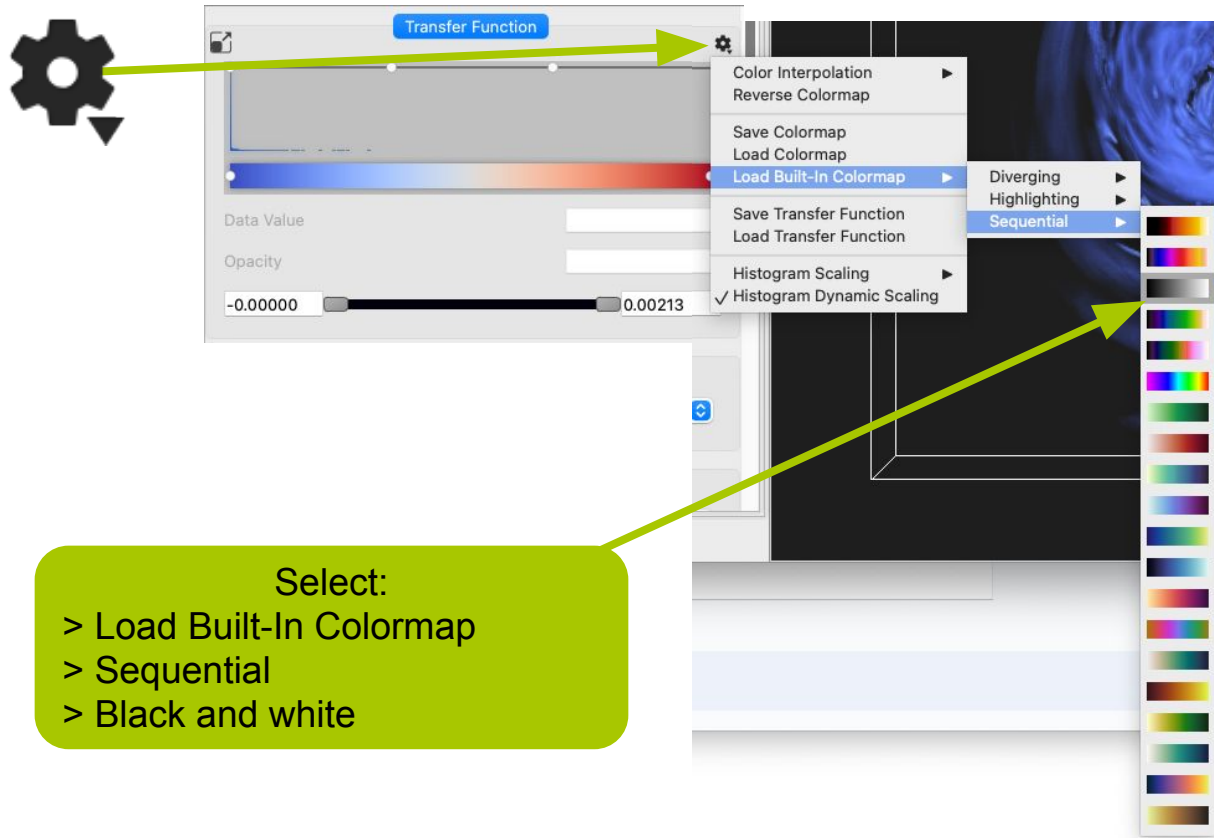


Katrina – Bookmark: QCLOUD

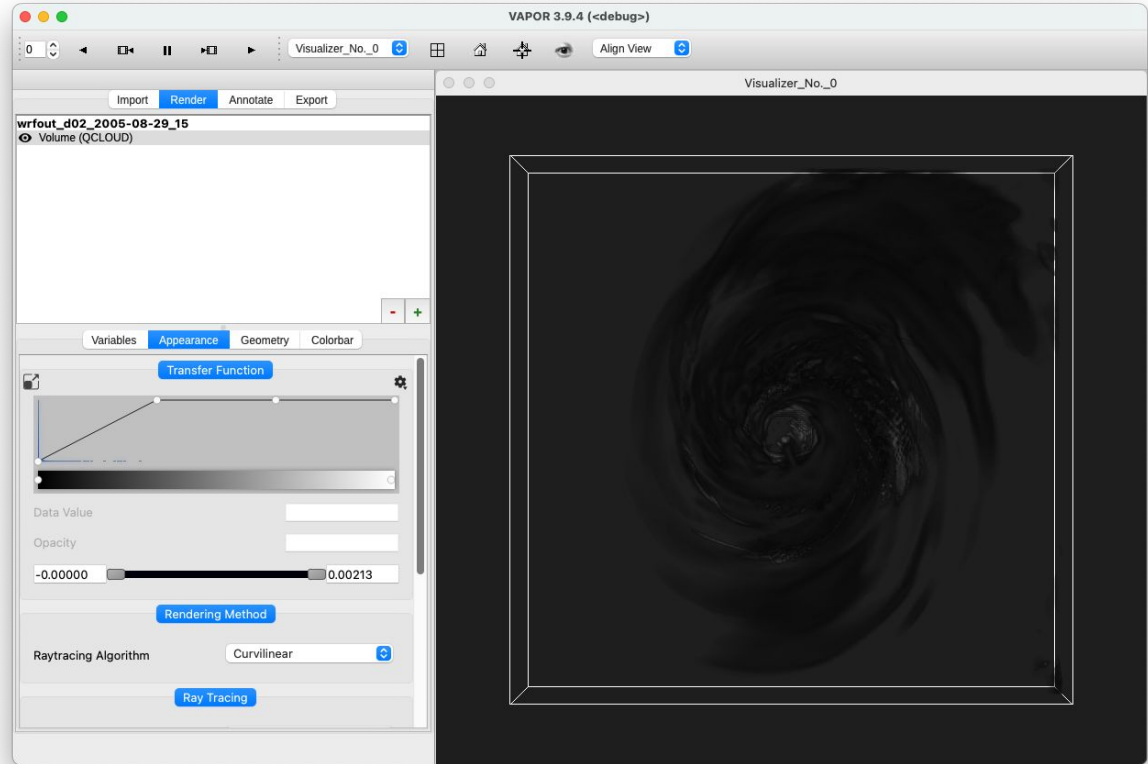
Transfer Function Settings



Katrina – Bookmark: QCLOUD



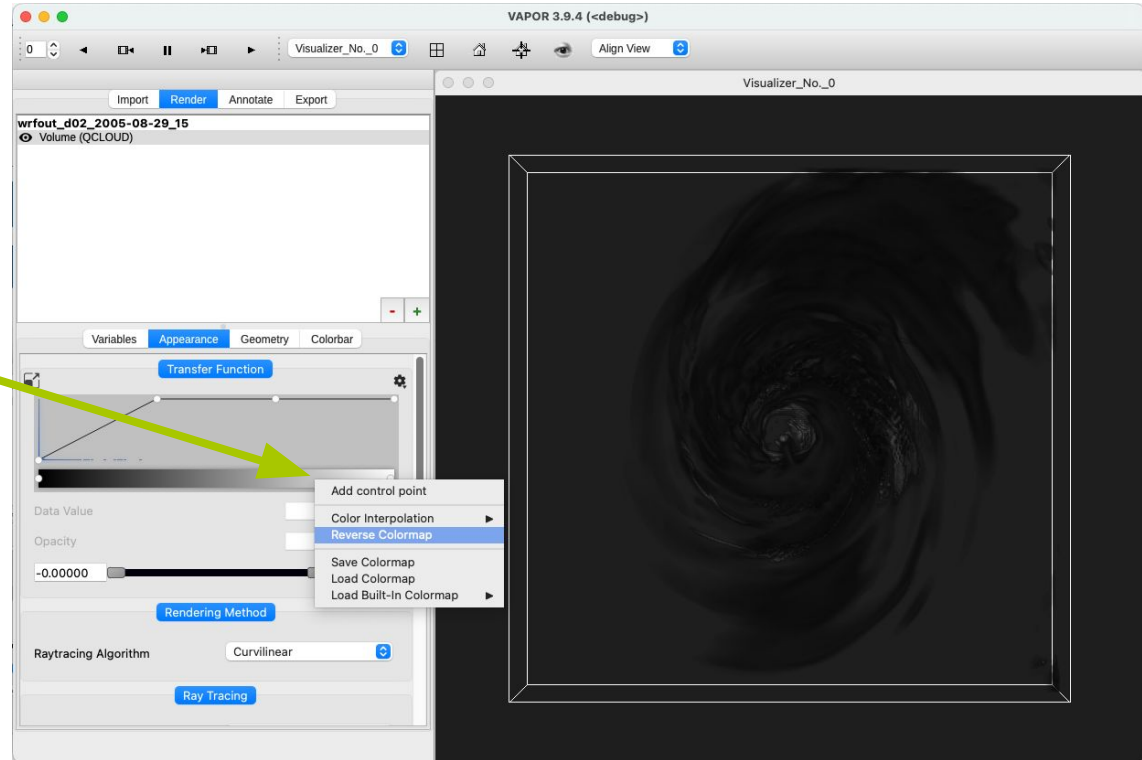
Katrina – Bookmark: *Q*CLOUD



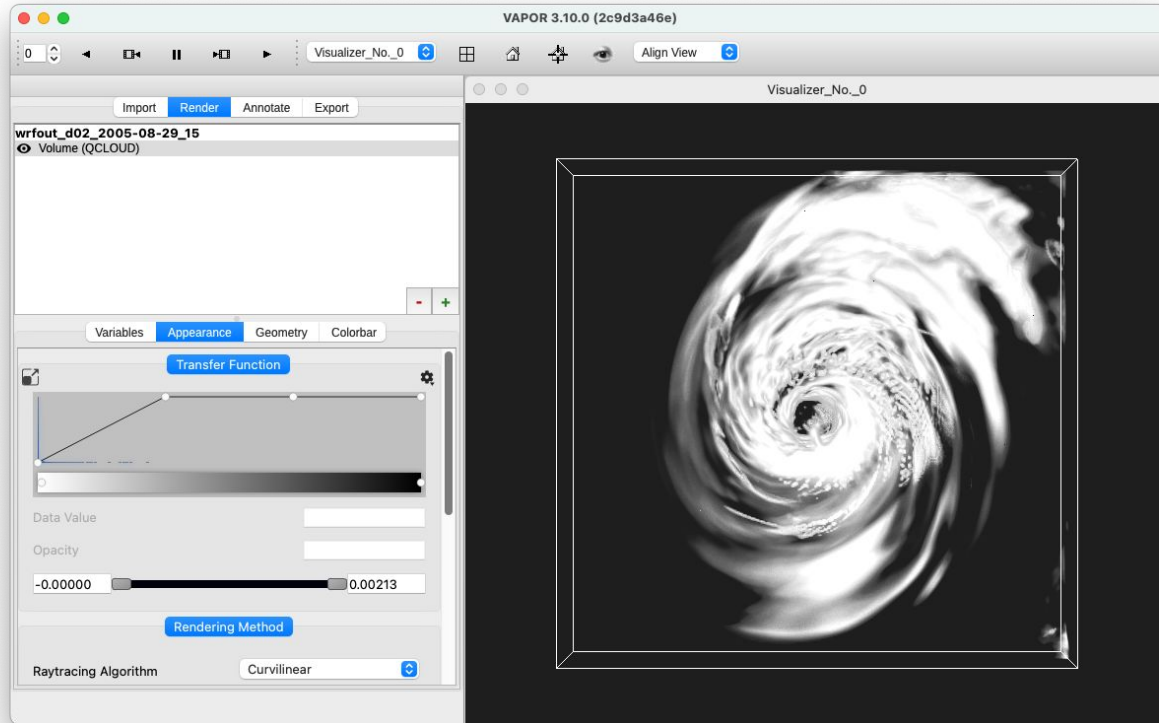
Katrina – Bookmark: QCLOUD White to Black

Right-click on the color bar

Select “Reverse Colormap”



Katrina – Bookmark: *QCLOUD White to Black*

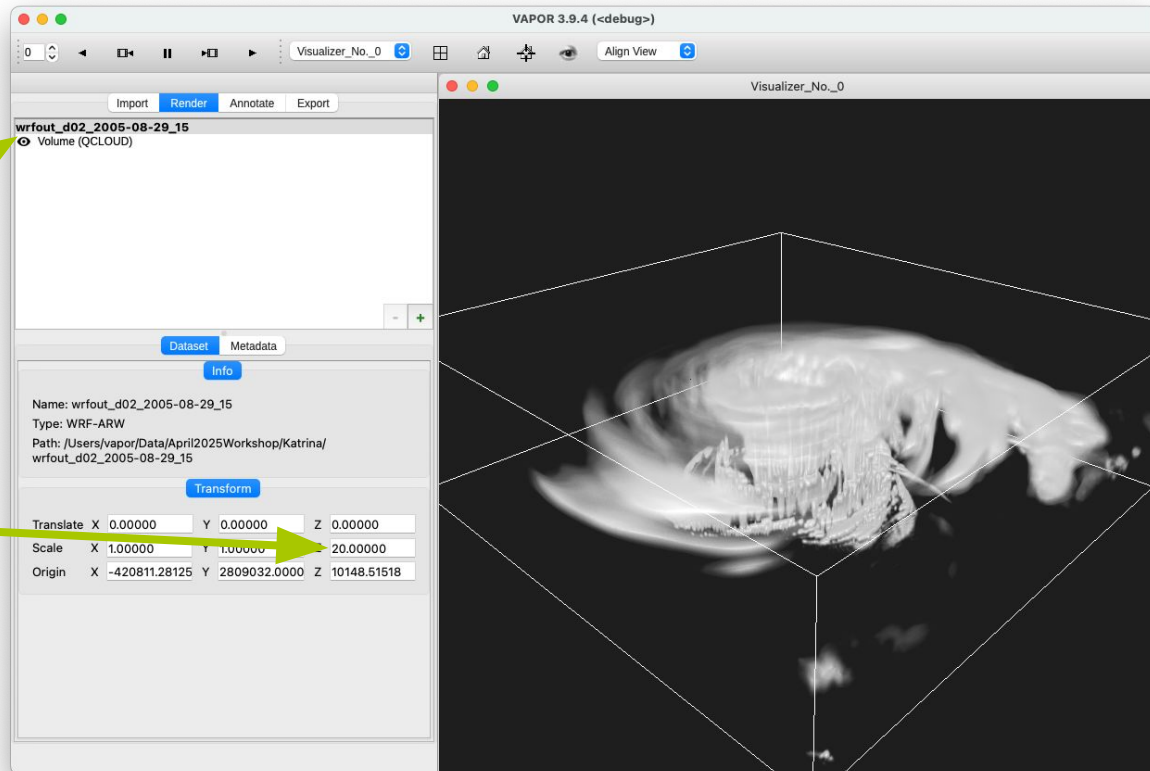


Katrina – Bookmark: *Stretch Z Axis*

Stretch the Z Axis

Click on the Dataset name in the Renderers table

Set the Z axis scale to 20



Katrina – Bookmark: *Stretch Z Axis*

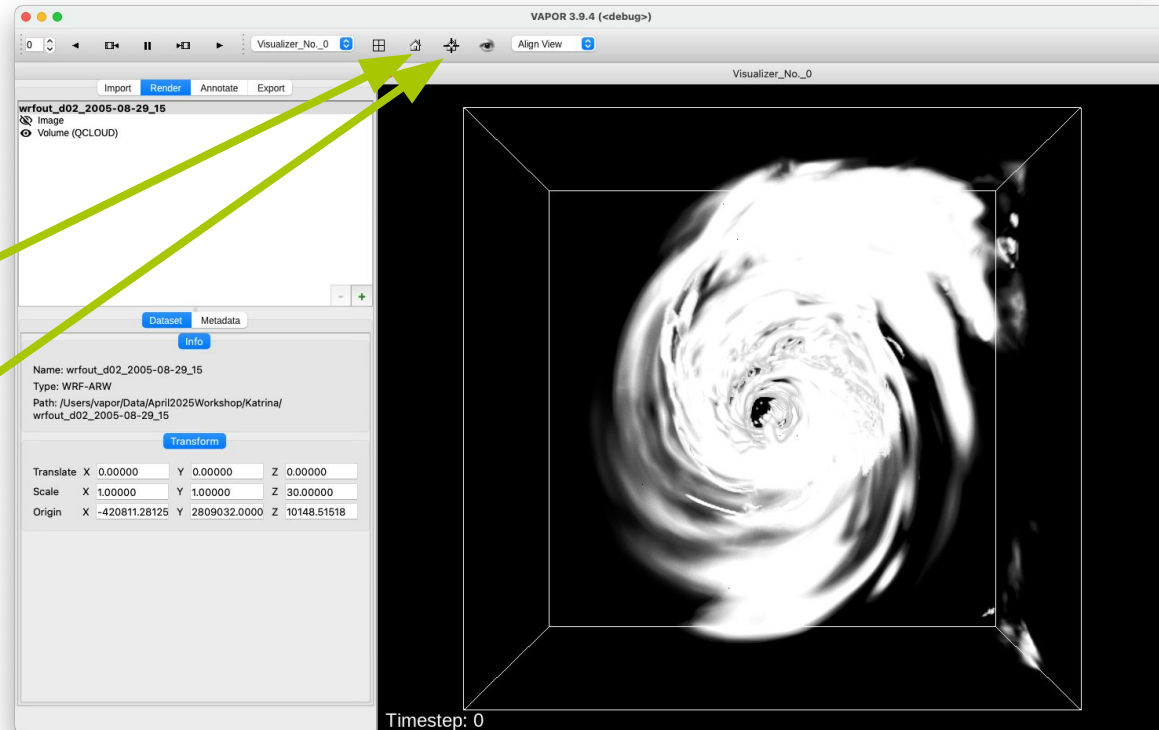
Go to our Home Viewpoint



Default Home Viewpoint
looks along -Z axis

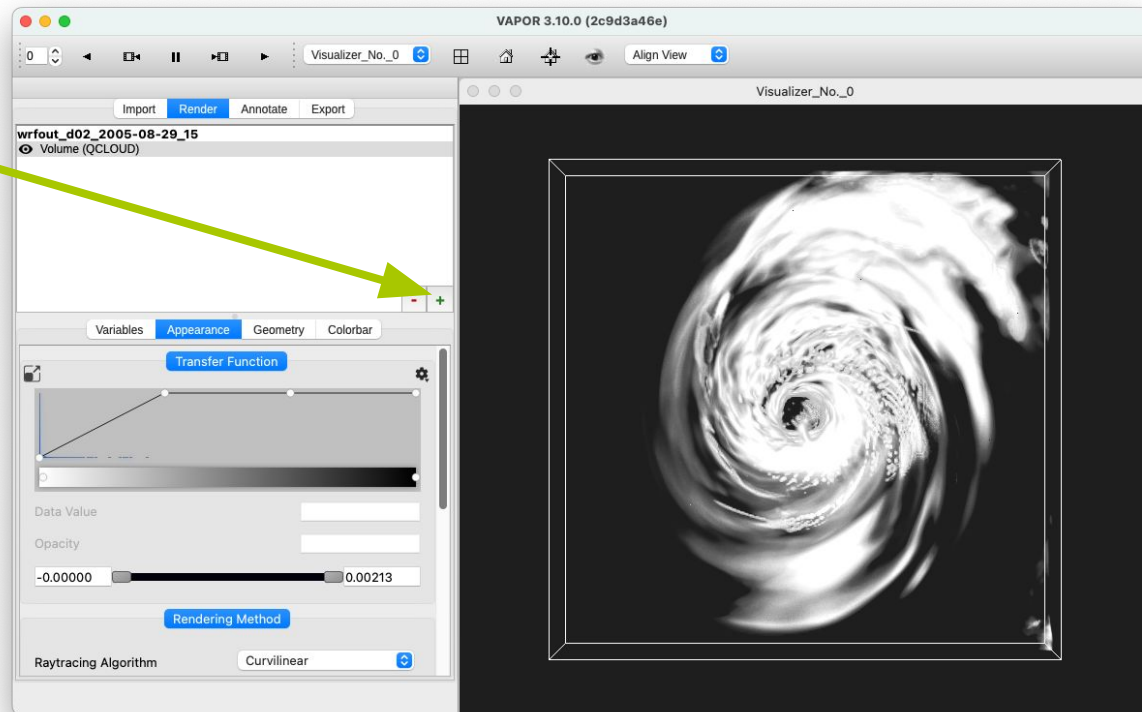


Set a different
Home Viewpoint



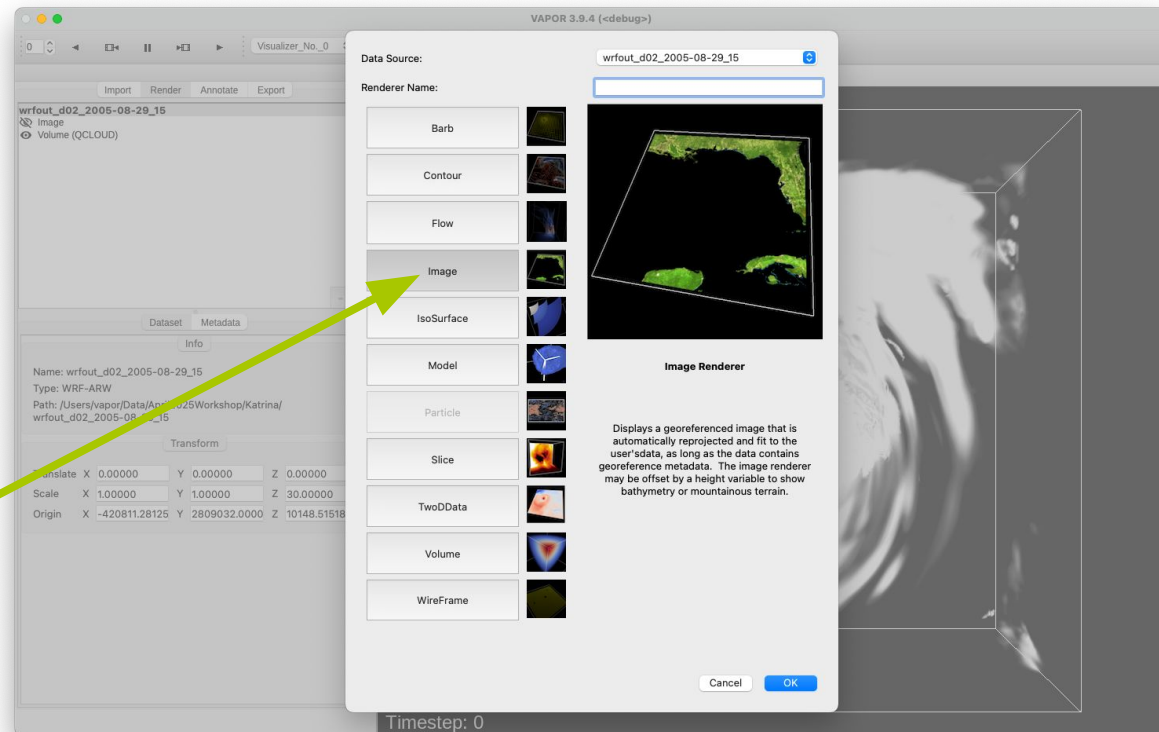
Katrina – Bookmark: *Image Renderer*

Create an
Image Renderer



Katrina – Bookmark: *Image Renderer*

Select
Image Renderer



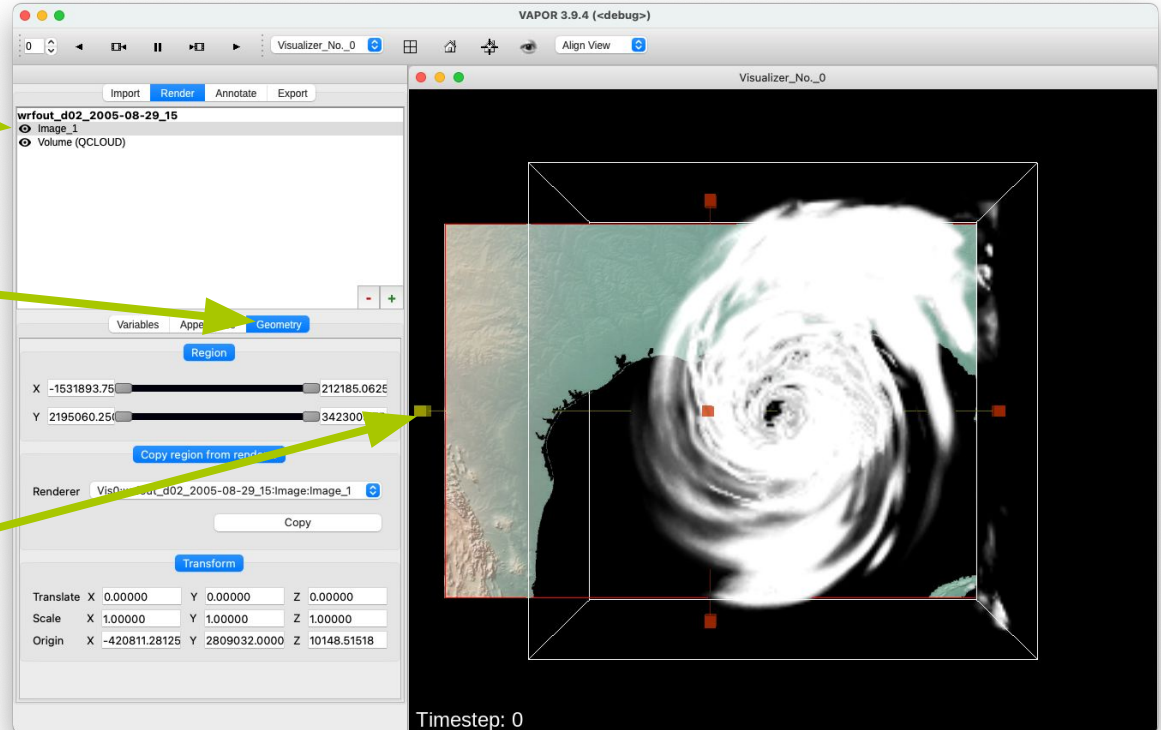
Katrina – Bookmark: *Image Renderer*



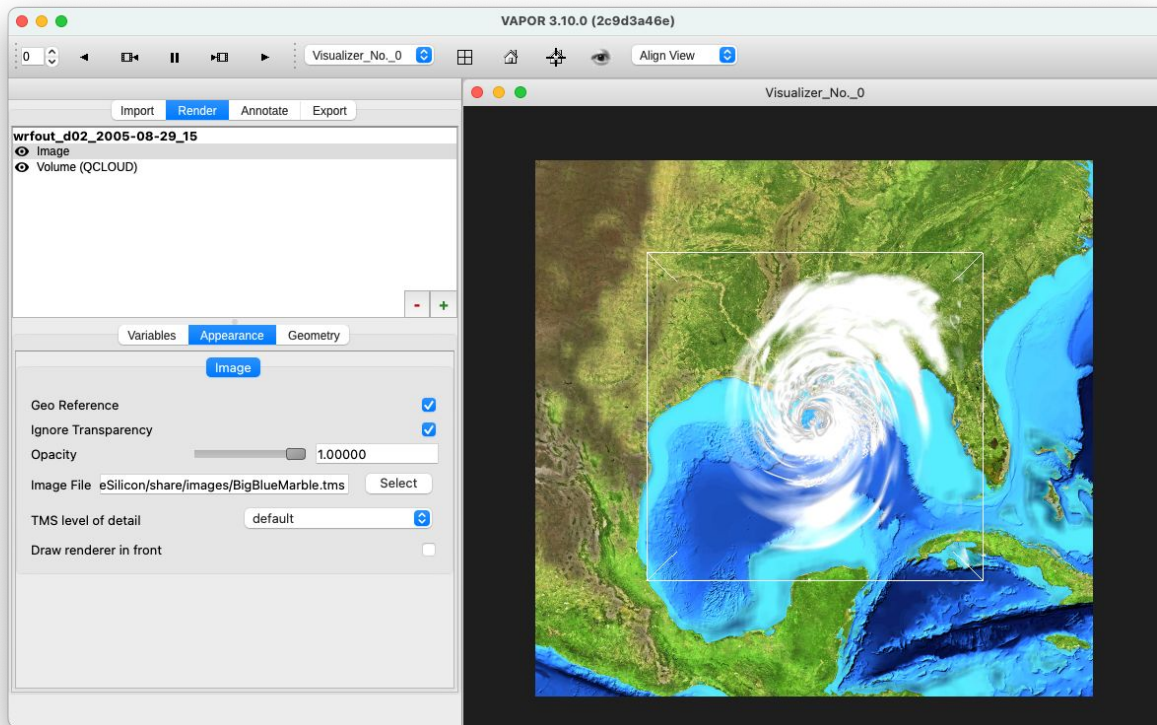
Enable the Image

Go to the
Geometry Tab

Right-click and drag
the handlebars



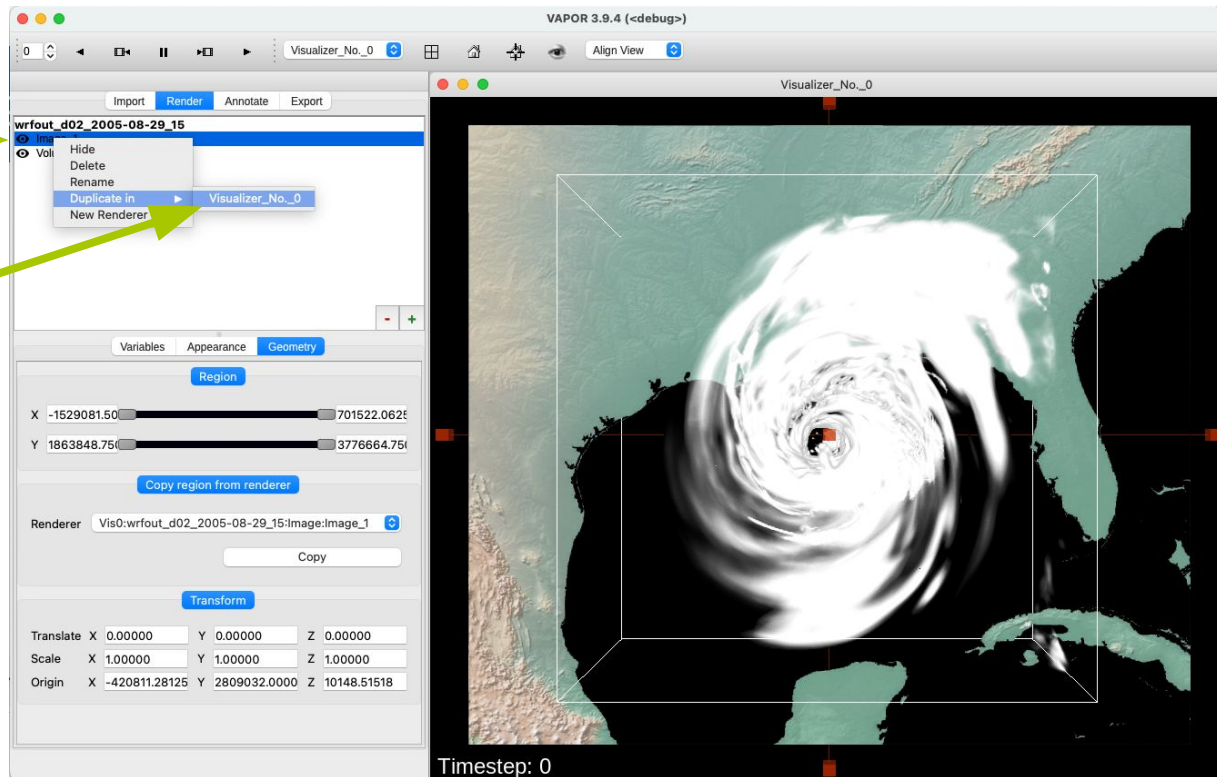
Katrina – Bookmark: *Image Renderer*



Katrina – Bookmark: *Image Renderer*

Right Click on the Image
Renderer instance

Select:
Duplicate In > Visualizer_No.0



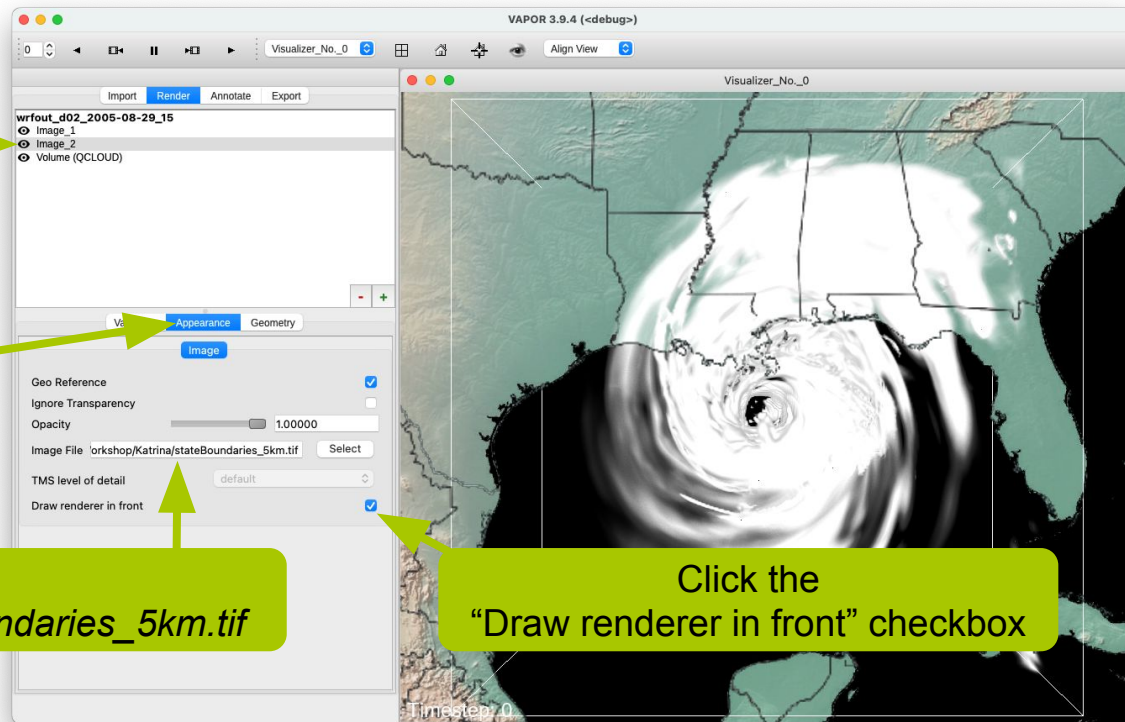
Katrina – Bookmark: *Image Renderer*



Enable the new
Image Renderer

Go to the
Appearance Tab

Select:
April2025Workshop/Katrina/stateBoundaries_5km.tif



Click the
“Draw renderer in front” checkbox

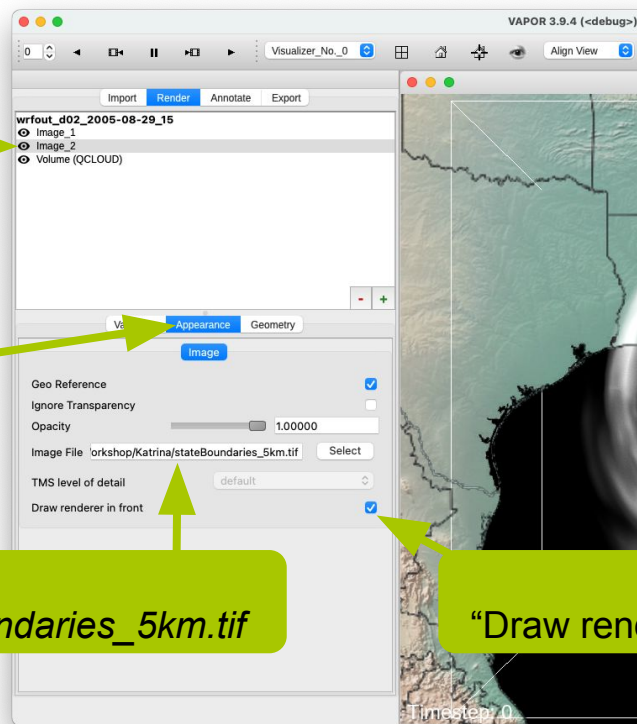
Katrina – Bookmark: *Image Renderer*



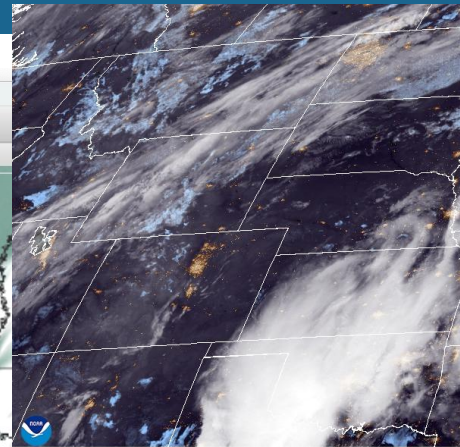
Enable the new
Image Renderer

Go to the
Appearance Tab

Select:
April2025Workshop/Katrina/stateBoundaries_5km.tif



Click the
“Draw renderer in front” checkbox



30 Apr 2025 10:56Z - NOAA/NESDIS/STAR - NR - GEOCOLOR Composite

Katrina – Bookmark: *Python: Speed*

Under the Tools menu,
select “Python Variables”



Input Variables

Output Variables

Script Editor



Katrina – Bookmark: *Python: Speed*

The screenshot shows a Python environment interface with the following components:

- Script Name:** speed
- Data Set:** wrfout_d02_2005-08-29_15
- Buttons:** New, Open from Session, Delete
- Input Variables:** TH2, TMN, TSK, U10, UDROFF, V10. U10 and V10 are selected.
- Output Variables:** speed, west_eastxsouth_north
- Script Editor:** Contains the code:

```
from vapor_utils import *  
speed=Mag(U10,V10)
```

Annotations and actions:

- Select U10 and V10 as Input Variables:** Indicated by a green arrow pointing to the checkboxes for U10 and V10 in the Input Variables list.
- Click New Script name: speed:** Indicated by a green arrow pointing to the 'New' button in the top right.
- Create new script dialog:** Shows 'Script name: speed' and 'Data Set: wrfout_d02_2005-08-29_15'.
- Click New Variable name: speed Output Grid: west_eastxsouth_north:** Indicated by a green arrow pointing to the 'New' button in the Output Variables section.
- Create new variable dialog:** Shows 'Variable name: speed' and 'Output Grid: west_eastxsouth_north'.

Katrina – Bookmark: *Python: Speed*

The screenshot shows a configuration window for a Python script named "speed". The "Data Set" is "wrfout_d02_2005-08-29_15". Under "Input Variables", "U10" and "V10" are selected. Under "Output Variables", "speed" and "west_eastxsouth_north" are listed. The "Script Editor" contains the code: `from vapor_utils import *` and `speed=Mag(U10,V10)`. Buttons for "New", "Open from Session", "Delete", "Test", "Save", and "Close" are visible.

Script Name: speed
Data Set: wrfout_d02_2005-08-29_15

Input Variables
2D 3D Summary

Variable	Selected
TH2	☐
TMN	☐
TSK	☐
U10	☒
UDROFF	☐
V10	☒

Output Variables
New Delete

Variable
speed
west_eastxsouth_north

Include Coordinate Variables ☐

Script Editor

```
from vapor_utils import *  
speed=Mag(U10,V10)
```

Test Save Close

Apply the following

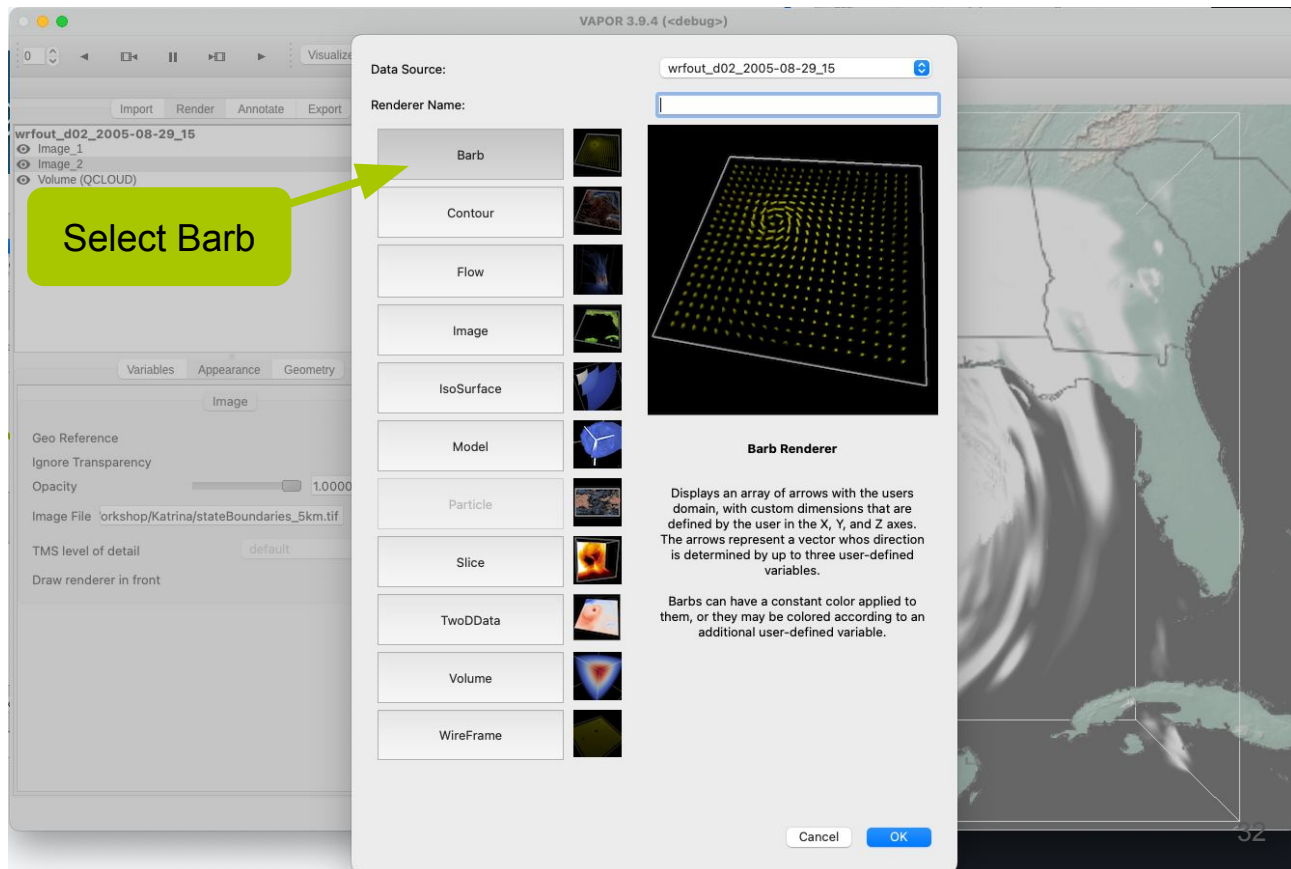
```
from vapor_utils import *  
speed=Mag(U10,V10)
```

Save and Close

Katrina – Bookmark: *Barbs*

Create a Barb Renderer

Select Barb



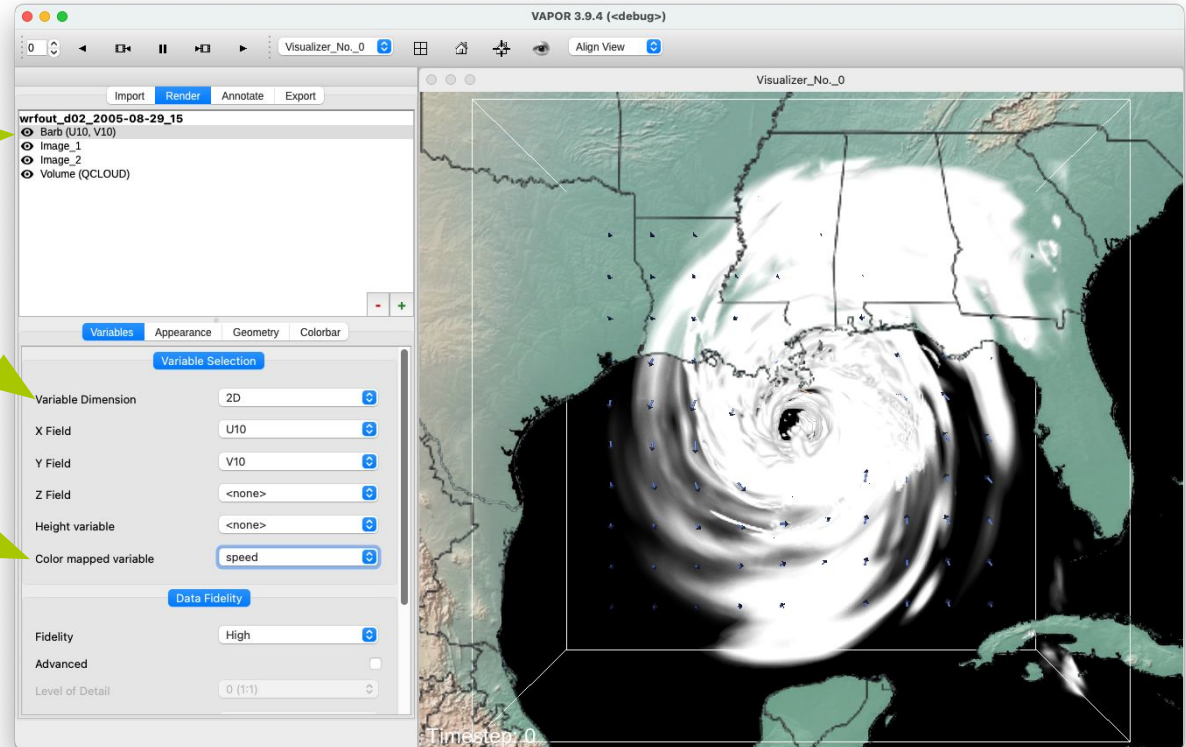
Katrina – Bookmark: *Barbs*



Enable Barb

Variable Dimension: **2D**

Color mapped variable: **speed**



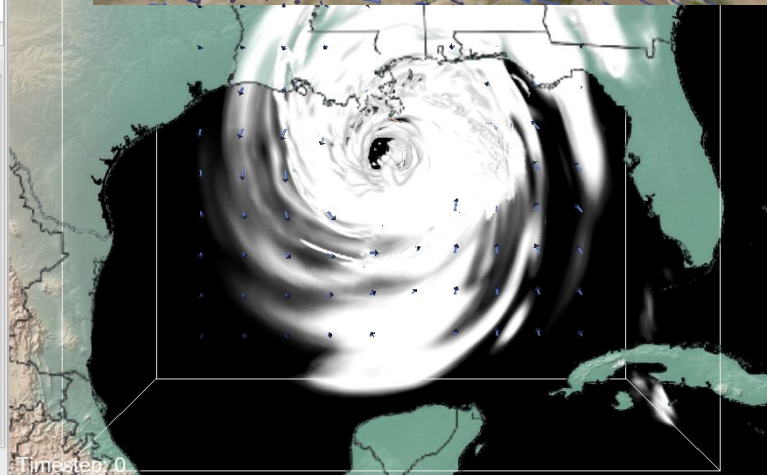
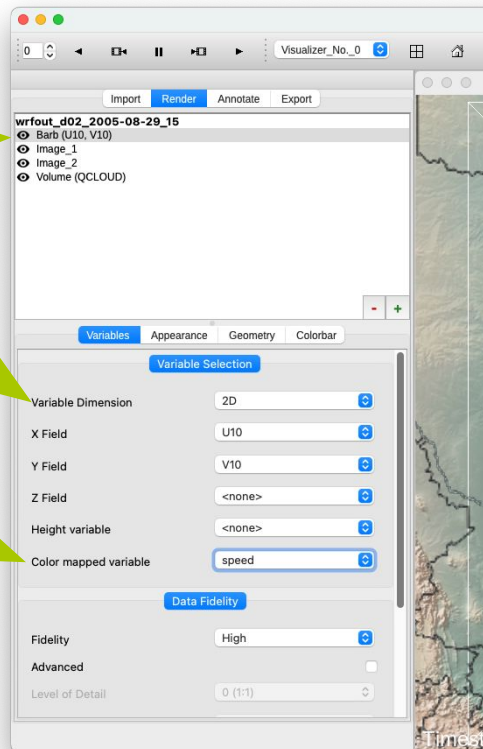
Katrina – Bookmark: *Barbs*



Enable Barb

Variable Dimension: **2D**

Color mapped variable: **speed**



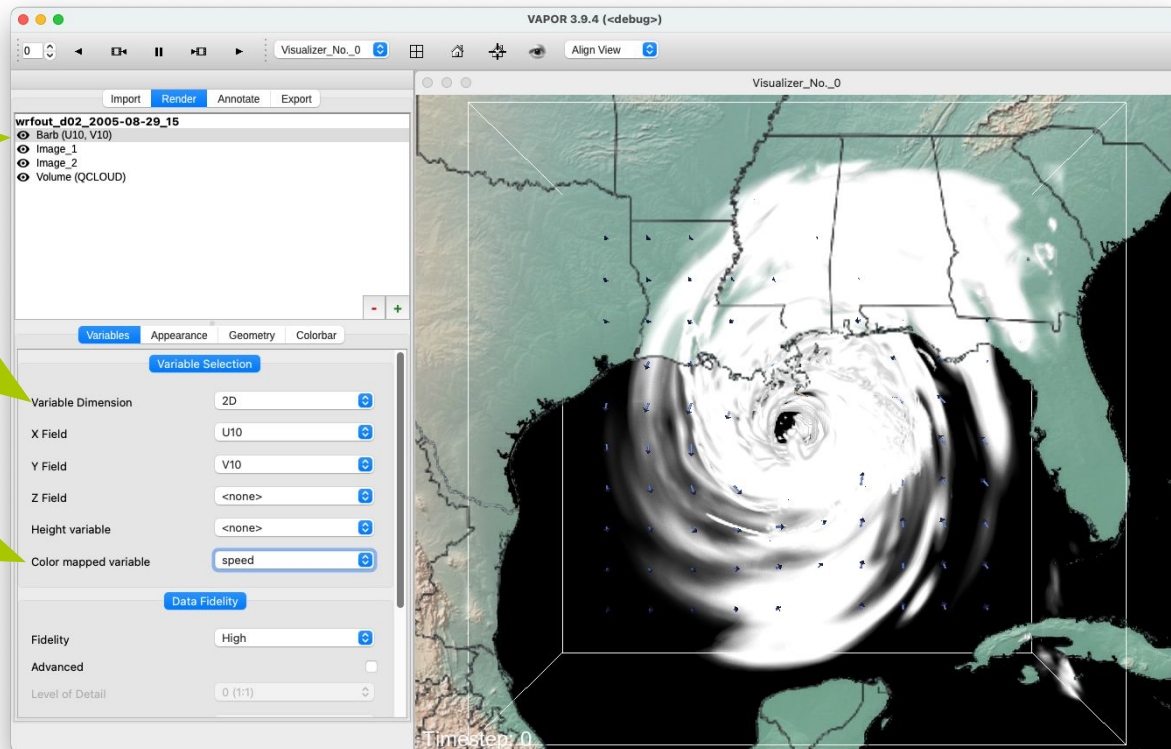
Katrina – Bookmark: *Barbs*



Enable Barb

Variable Dimension: **2D**

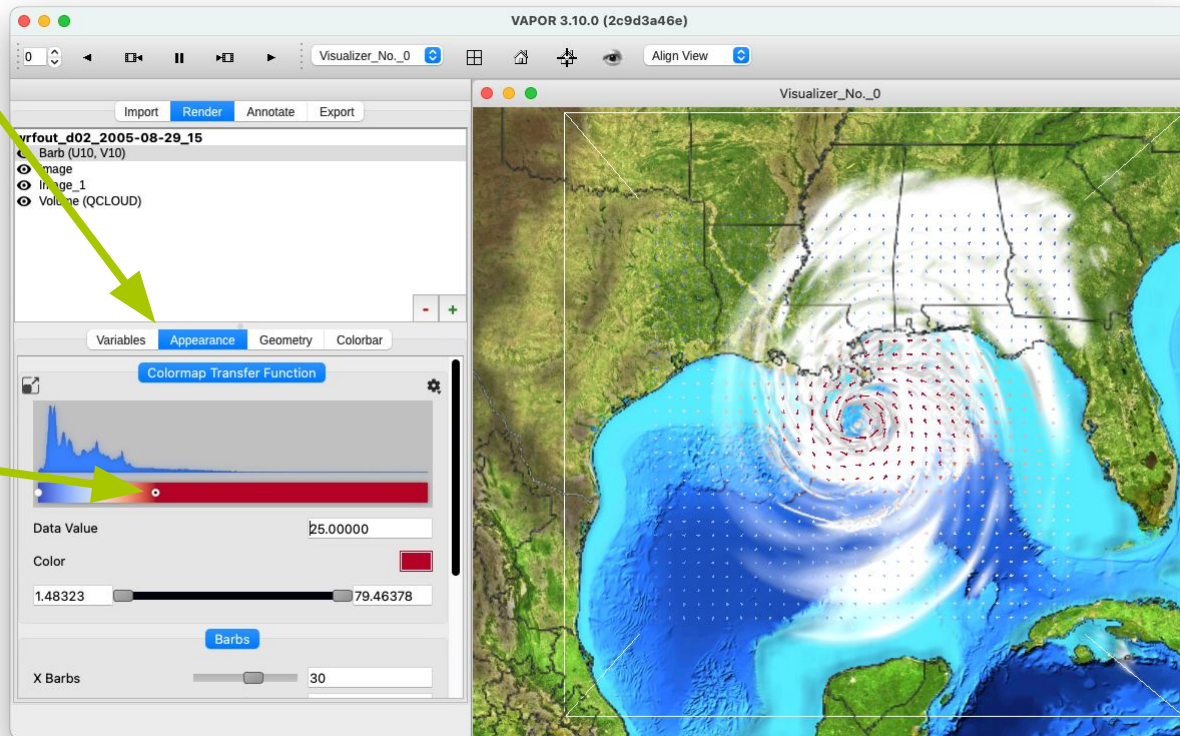
Color mapped variable: **speed**



Katrina – Bookmark: *Barbs*

Go to the Appearance Tab

Adjust the Transfer Function



Katrina – Bookmark: *Barbs*

The screenshot shows the VAPOR 3.10.0 (2c9d3a46e) interface. The main window displays a 3D visualization of Hurricane Katrina over the Gulf of Mexico, with wind vectors (barbs) overlaid on a color-coded pressure or height field. The left sidebar shows the project hierarchy: **wrfout_d02_2005-08-29_15**, **Barb (U10, V10)**, **Image**, **Image_1**, and **Volume (QCLOUD)**. The **Barb** object is selected, and the **Appearance** tab is active. The **Color** section shows a color bar ranging from 1.48323 to 79.46378. The **Barbs** section contains the following settings:

- X Barbs: 30
- Y Barbs: 30
- Z Barbs: 1
- Length Scale: 0.30000
- Thickness Scale: 0.60000
- Enable Lighting: ☐ (unchecked)
- Use Constant Color: ☐ (unchecked)
- Draw renderer in front: ☒ (checked)

Annotations with arrows point to the following settings:

- X Barbs: 30
- Y Barbs: 30
- Length Scale: 0.3
- Thickness Scale: 0.6
- Uncheck Enable Lighting
- Check Draw renderer in front

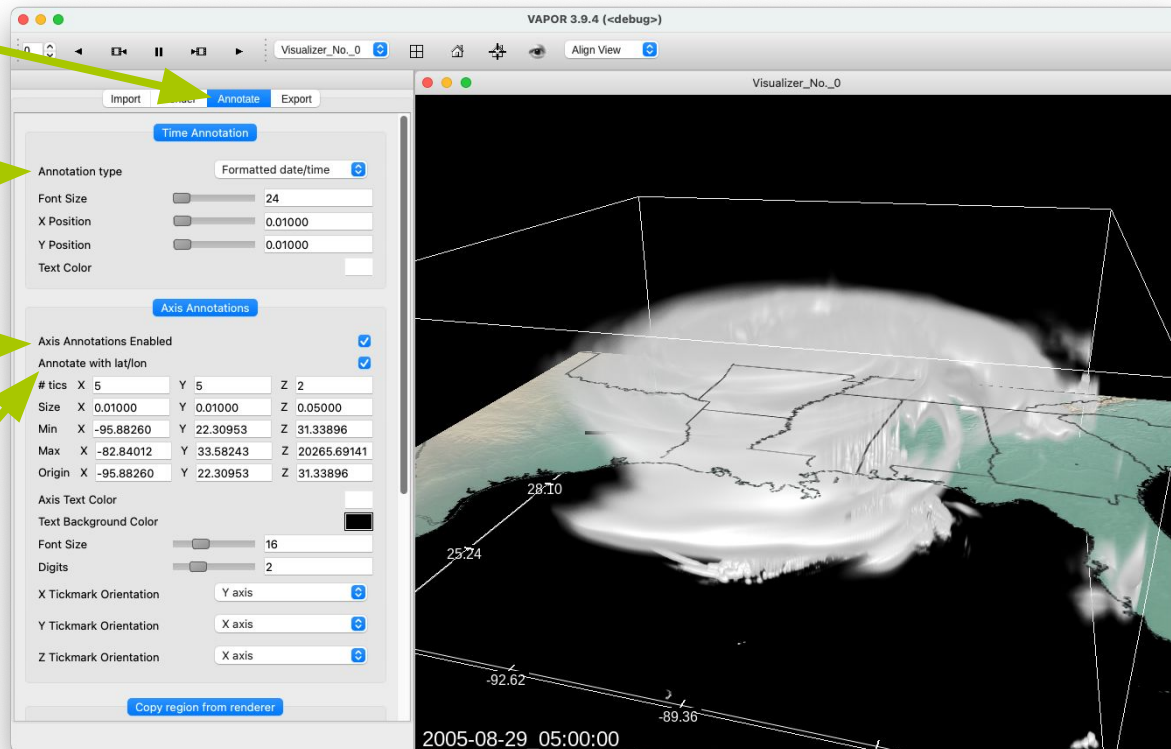
Katrina – Bookmark: *Barbs*

Go to the
Annotate Tab

Annotation type:
Formatted date/time

Enable Axis Annotations

Check
Annotate with lat/lon



Katrina – Bookmark: *Barbs*

Export Tab

Select
Time series range

Click **Export**

Select a directory and a prefix.
Images will be saved as:

myPrefix0000.tiff
myPrefix0001.tiff
...

